

**Amendments to the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) A method for the formation of a selective rendering of body structures of an object to be examined from a primary image data set[[,]] that is executed on a computer, the computer including computer memory that stores instructions that when executed on the computer, cause the computer to perform ~~which method comprises~~ the steps of:

[[ -]] ~~combining a plurality of pixels so as to forming~~ at least one pixel group (BG1-BG16) which comprises ~~each time~~ pixels from the primary image data set which are associated ~~with the pixel group~~ are in conformity with predetermined filter criteria[[,]];

[[ -]] forming at least one pixel list by selection and/or deselection of at least one pixel group[[,]] in conformity with predetermined criteria;

marking the pixels of the pixels groups of the at least one pixel list;

[[ -]] forming a filtered secondary image data set ~~in which~~ includes the marked pixels ~~of the pixel groups of the at least one pixel list formed are marked;~~ and

[[ -]] forming the rendering from the secondary image data set, the marked pixels being rendered separately, ~~notably~~ in highlighted or suppressed form.

2. (Currently amended) [[A]] The method as claimed in claim 1, in which a plurality of image regions is defined, wherein the pixels overlap at least partly.

3. (Currently amended) [[A]] The method as claimed in claim 1, in which a plurality of pixel groups is defined, wherein a combination data tree is formed by assigning each pixel group (BG1-BG16) to a node (D1-D10, C1-C11, B1, B2, A1), and that the nodes are logically assigned to one another in conformity with a predetermined combination criterion and the selection and deselection are performed by selection and/or deselection of the nodes.

4. (Currently amended) The ~~[[A]]~~ method as claimed in claim 3, wherein the logic combination of two nodes takes place ~~[[ - ]]~~ if all pixels of the pixel group associated with one node are also contained in the pixel group associated with the other node and ~~and/or~~ ~~[[ - ]]~~ if the pixel groups associated with the two nodes are not situated more than a predetermined distance apart.

5. (Currently amended) The ~~[[A]]~~ method as claimed in claim 3, wherein the logic combination is performed by mutual combination of pixel groups in the form of a hierarchically structured combination tree, wherein:

- ~~[[ - ]]~~ each pixel group is assigned a node of a lower level (C1-C11)~~[[ , ]]~~;
- ~~[[ - ]]~~ at least one higher level (B1, B2) is defined~~[[ , ]]~~;
- ~~[[ - ]]~~ nodes of a respective lower level are combined with a node of a hierarchically higher level ~~[[ - ]]~~ if all pixels of the pixel group associated with the lower node are also contained in the pixel group associated with the node of the higher level, and ~~and/or~~
  - ~~[[ - ]]~~ if the pixel groups associated with the nodes of the lower level are not situated more than a predetermined distance apart.

6. (Currently amended) The ~~[[A]]~~ method as claimed in claim 5, wherein the formation of the filtered secondary image data set is performed by selection and deselection of nodes of different levels.

7. (Currently amended) The ~~[[A]]~~ method as claimed in claim 1, wherein the combination of the pixels in the at least one pixel group is performed by means of the watershed transformation which comprises the following steps:

- ~~[[ - ]]~~ forming a gradient image data set in which each pixel is assigned a gradient image value which corresponds to the difference between the image value of this pixel in the primary image data set and the image value of the pixels surrounding this pixel~~[[ , ]]~~; and
- ~~[[ - ]]~~ defining the pixel group by defining a gradient image region of neighboring pixels which are separated from one another by a local maximum of the gradient image values.

8. (Currently amended) The ~~[[A]]~~ method as claimed in claim 2, wherein there is formed a plurality of hierarchically structured combination data trees whose nodes are logically combined in conformity with at least one combination criterion; ~~notably~~

~~[[ -]]~~ if all pixels of the pixel group associated with the lower node are also contained in the pixel group associated with the node of the higher level~~[[,]]~~; and/or

~~[[ -]]~~ if the pixel groups associated with the two nodes are not situated more than a predetermined distance apart, that the combination criteria of the combination trees differ in respect of at least one combination criterion~~[[,]]~~; and

~~that wherein~~ the formation of the pixel list takes place by selection and deselection of nodes of at least one; ~~but preferably several different level~~~~[[s]]~~ in the combination trees.

9. (Currently amended) A device ~~having a computer with computer memory, the computer memory storing instructions that when executed on the computer, cause the computer to perform a method~~ for the formation of a selective rendering of body structures from a primary image data set, ~~which device comprises said method comprising the steps of:~~

~~[[ -]]~~ ~~means for combining a plurality of pixels so as to forming~~ at least one pixel group which contains ~~each time~~ pixels from the primary image data set assigned to the pixel group which are in conformity with predetermined filter criteria~~[[,]]~~;

~~[[ -]]~~ ~~means for forming at least one pixel list by selection and deselection of each time all pixels of at least one pixel group~~~~[[,]]~~ in conformity with predetermined criteria;

marking the pixels of the pixels groups of the at least one pixel list;

~~[[ -]]~~ ~~means for forming a filtered secondary image data set~~ which includes ~~by marking the marked pixels of the at least one pixel list;~~ and

~~[[ -]]~~ ~~means for forming the rendering from the secondary image data set, the marked pixels being rendered separately;~~ ~~notably~~ in highlighted or suppressed form.

10. (Currently amended) A computer program for the formation of a selective rendering of body structures from a primary image data set, which computer program comprises program means which execute the steps of the method disclosed in claim 1 when the program is run on ~~[[a]]~~ the computer.

11. (New) The method as claimed in claim 1, wherein each of the at least one pixel group (BG1-BG16) has a different corresponding predetermined filter criteria.
12. (New) The method as claimed in claim 1, wherein the pixels in the secondary image data set are marked by setting an associated image value to a predetermined, uniform image value.
13. (New) The method as claimed in claim 12, wherein the predetermined, uniform image value is 0.
14. (New) The method as claimed in claim 1, wherein the pixels are marked by reducing the associated image value by a predetermined absolute or relative amount.
15. (New) The method as claimed in claim 1, wherein the pixels contained in the pixel list are marked in such a manner that the pixels are highlighted or diminished in color in the subsequent rendering.
16. (New) The method as claimed in claim 1, wherein selection is the inclusion of a pixel group in a previously made selection.
17. (New) The method as claimed in claim 1, wherein deselection is the removal of a pixel group in a previously made selection.
18. (New) The method of claim 1, wherein the pixel list is an enumeration list which contains a reference to the selected and deselected pixels groups.
19. (New) The method of claim 1, wherein the pixel list is an enumeration list which comprises all pixels selected by selection and deselection and a reference to the corresponding pixels.

Application No. 10/533,648

Amdt. Dated: March 4, 2009

Reply to Office Action Dated: December 11, 2008

20. (New) The method of claim 1, wherein the pixel list is an enumeration list which comprises all pixels selected by selection and deselection and the image values and coordinates of the corresponding pixels.